ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

# Public Health Assessment for

**BREMERTON NAVAL COMPLEX**
**INCLUDING PUGET SOUND NAVAL SHIPYARD**
**BREMERTON, KITSAP COUNTY, WASHINGTON**
**EPA FACILITY ID: WA2170023418**
**SEPTEMBER 16, 2005**



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
Agency for Toxic Substances and Disease Registry

explosive items ever occurred at any portions of BNC and there is no reason to believe that any physical hazards would be present at OU-D (NEESA 1983).

A total of 15 composite surface soil samples between 0 and 2 feet below ground surface (bgs) were collected in May 2003 as part of the RI/FS to further characterize soil contamination at OU-D. Earlier environmental sampling also occurred as part of the OU-B RI/FS when all of the land use at BNC was expected to remain industrial. All soil samples were analyzed for priority pollutant inorganics (metals), pesticides, and PCBs, SVOCs, VOCs, and gasoline and diesel range hydrocarbons (URS 2004).

Arsenic was detected at 9 ppm in surface soil, which is slightly above the general background range for the Bremerton area[3]. Although lead and chromium (maximum concentrations: 819 and 805 ppm respectively) were detected in all the soil samples collected, most samples were not detected at levels known to cause harm. For example, only one sample exceeded EPA's action level for lead of 400 ppm in residential soil and only two samples exceeded the screening value for chromium. Some PAHs were detected above ATSDR's health-based screening values. However, only benzo (a) pyrene (maximum concentration: 6.8 ppm) was detected frequently above its screening value. A small number of samples also contained TPH that exceeded the state of Washington's cleanup action level.

Public Health Implications

ATSDR evaluated potential future exposures to contaminated soil at OU-D because of proposed changes in land use that may result in people having access to formerly restricted areas. Under state and federal statutes, a public park must meet standards applied to residential properties. According to the Navy, the soil that exceeds preliminary remediation goals (PRGs) in areas of the northeastern portion of the site, which is proposed for transfer to the city, will be covered with clean soil and vegetation. The vegetated cover for this portion of OU-D will be backfilled with suitable imported material, including a minimum 6-inch topsoil layer for establishing the vegetative zone (URS 2004; PSNS&IMF 2004). Soils that exceed the PRGs on the southwestern portion of the site (approximately 2.5 acres that is to be retained by the Navy) will be capped with an asphalt cap and maintained secure within the ownership of the Navy.

A review of data from a recent OU-D investigation identified low levels of contamination in soil that are below levels known to cause illness or health problems. Some of the contaminants detected in surface soil at OU-D did exceed their respective health-based screening values for residential use. During the site tour of BNC, ATSDR observed that a significant portion of OU-D is currently unpaved and a large mound of excavated soil is present on the site. However, all of OU-D continues to be under Navy control and access is restricted. Any future use for OU-D is expected to meet all state and federal regulatory residential soil standards before transfer of property is completed and unrestricted access to the area is permitted. Therefore, ATSDR does not expect exposures to site-related contaminants to occur in the future at levels that would result in harm to people who use the park. According to the Navy, all remedial actions for OU D will be finalized prior to any transfer of property to the city of Bremerton. Additionally, the remedy includes institutional controls prohibiting residential construction.

[3] The typical background levels for arsenic in soil for the Bremerton area range between 1.1 and 7.5 ppm.

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